2007-05913/

Science and Engineering Research Canada

Contact

Investing in people, discovery and innovation

January 2005, Vol. 30, No. 1
ISSN 1188-066X

So Far the Signs Are Positive

Editorial by NSERC President Tom Brzustowski

As anyone who has read a newspaper in the last two months will know, the Government of Canada has launched a reallocation process to move money to programs of higher priority from programs of lower priority. The idea is not to cut the level of total spending, but to make sure that money is available to meet today's most important needs. The target amount for reallocation is $12 billion, to be implemented over five years. Possible spending cuts were identified by public servants; the reallocating is the responsibility of an Expenditure Review Committee of ministers. No program was to be spared in the targeting of potential cuts; some programs may become net winners in the reallocation.

Last fall, we learned that NSERC was targeted for a possible cut of 5 per cent (as was the Social Sciences and Humanities Research Council). This would amount to $40 million per year, which would take away all of the budget increase provided to NSERC in Budget 2004, and would cut into the increase received in Budget 2003. Council was astonished to learn of this possibility, and spent most of the meeting at the University of Northern British Columbia in October deciding how to react. In the event, Council members drafted a letter to the Minister of Industry pointing out that university research in science and engineering had been identified as a high government priority in the last several budget speeches, and had to continue as a high priority if the government's stated goals were to be pursued and the gains already made were not to be lost. The letter, signed by all Council members, was sent to the Minister of Industry in early November.

On November 16, 2004, the Minister of Finance presented the annual fiscal update to the House of Commons Standing Committee on Finance. His words were very encouraging. Not only did the government foresee a succession of surpluses, but it was also committed to maintaining the momentum of developing Canada's capacity in science and technology. The most relevant words appeared in a short paragraph near the end of the presentation:

"We will build on our highly successful innovation agenda to advance Canadian excellence in scientific research and new technology development. Investing in both the discovery of new ideas and in their commercialization in the real marketplace fuels an

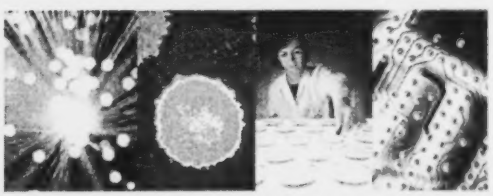
(continued on page 2)

4 **NSERC's 2004 Awards**

7 **Northern Chairs' Lecture Tour**

9 **International News**

www.nserc.gc.ca



NSERC
CRSNG

Natural Sciences and Engineering Research Council of Canada
Conseil de recherches en sciences naturelles et en genie du Canada

Canada

NSERC, now also known as Science and Engineering Research Canada, is a key federal agency investing in people, discovery and innovation. It supports both basic university research through research grants, and project research through partnerships among postsecondary institutions, government and the private sector, as well as the advanced training of highly qualified people.

Contact is published by the NSERC Newsbureau and can also be found on the Internet at www.nserc.gc.ca/publicat.htm.

Editor-in-Chief
Joyce French
E-mail:
joyce.french@nserc.ca

Please send address changes by e-mail to distribution@nserc.ca.

PUBLICATIONS MAIL AGREEMENT NO. 40062835

RETURN UNDELIVERABLE CANADIAN ADDRESSES TO

NSERC
350 ALBERT ST
OTTAWA ON K1A 1H5

Continued from cover page

upward spiral of brain power and productivity. The president of the Association of Universities and Colleges of Canada has described our multifaceted innovation agenda as nothing short of a new, 21st century national dream for Canada's future, and we must keep up our momentum."

Later the same month, the Minister of Industry appeared in front of the Standing Committee on Industry, Natural Resources, Science and Technology. His words were also very encouraging. While making a far-ranging statement on the issues facing Canadian industry, he said:

"On the knowledge-based side of things, what is going on today is an expenditure review initiative. I happened to be on that committee. Everybody, every department in government – and the granting agencies were not immune to this – were required to put up a notional 5 per cent cut so they could do some thinking about what their critical priorities would be.

The requirement to do that in no way implies that there will be a cut. I can tell you that I am a very, very strong advocate of continuing with the kind of research we've funded in the past, whether it's basic research or government research … or industry-oriented. It's fundamental. I don't think we should reduce it. I think we should be increasing it going forward."

Indeed, a strong case can be made for increasing the NSERC base budget by $82 million per year, or some 10 per cent. Once again, the number of first-time applicants for Discovery Grants is more than 900 and the number of funded researchers retiring is less than 300. In addition, NSERC must come to terms with the accumulating need for Research Tools and Instruments (Category 1), as well as for funds to run the major facilities that the Canada Foundation for Innovation has provided in its first years of operation. At the same time, there is a great need for money to respond strategically to compelling applications for Industrial Research Chairs, NSERC Research Networks and other programs that build on the base of achievements in Discovery Grants to reap the benefits of Canada's growing capability in science and engineering. And to make sure that today's momentum carries into tomorrow, we continue to need funding to support more students at all levels. A letter making this case for a base budget increase of $82 million was sent to the Minister of Industry in early December.

We don't know when we shall learn about NSERC's budget. It may be only when Budget 2005 is presented in February or March. The signs so far have all been positive, with influential ministers acknowledging the high priority the government attaches to university research in science and engineering. I now believe that a cut in the NSERC budget is most unlikely. However, what Canada's research effort in science and engineering needs is not the absence of a cut. What it needs is a significant increase now, and continued increases for the next decade so that we might catch up with some of the nations with which we have traditionally competed, and also be ready to respond to abrupt changes in the world economy as dominant new players appear on the stage.

Today, Canada needs a growing capability in science and technology even more than three years ago when the Innovation Strategy was announced. The same newspapers that wrote about government reallocations have been carrying stories in the same two months about the growing pressure on Canadian industry to supply China's exploding needs for raw materials. The possible sale of Noranda, the prospect of a new pipeline from the oil sands to the Pacific coast, the renewed demand for steel and coal have all been featured in our media. These may be seen as today's opportunities, but if they are a sign of where we think our future prosperity lies, then we risk becoming locked into a dependence on commodity markets that will eventually reduce our standard of living. The only way to avoid that is to develop the capacity to add value in all sectors of our economy, and the only way to do that is to imbed new knowledge from science and technology in new Canadian products and processes. And that requires the knowledge and the highly qualified people who can use it. That's what the NSERC budget is all about, and that's why it must grow.

NSERC Welcomes New Director of Communications

We are pleased to officially welcome Lucinda (Cindy) E. Boucher as Director of Communications. She joined NSERC on Oct. 13.

Lucinda E. Boucher

Ms. Boucher has a very strong background in communications, strategic planning and media relations. She has worked at the Ottawa Citizen, the CBC, and the offices of several Ministers and MPs. She has served as Director of Communications at the National Capital Commission and the National Arts Centre. More recently she has been Director General, Communications at Revenue Canada, Assistant Commissioner for the Canada Customs and Revenue Agency, and Vice President (Advancement) at Carleton University.

NSERC's First Regional Office Officially Open

More than 75 people from all over Atlantic Canada attended the official opening of NSERC's new office in the Parc scientifique in Moncton, New Brunswick, on October 14. Shown at the opening are (from left to right) Yves Gagnon, Visiting Executive in charge of the Atlantic office, Tom Brzustowski, President of NSERC, Danielle Menard, Director, Development of [NSERC] Regional Offices, and Yvon Fontaine, President and Vice-Chancellor of the Université de Moncton. For more information on the regional offices, visit the New Initiatives section of NSERC's Web site, at www.nserc.gc.ca.

National Science and Technology Week at the University of New Brunswick

The Honourable Andy Scott, Minister of Indian Affairs and Northern Development and Federal Interlocutor for Métis and Non-Status Indians, Dr. Greg Kealey, Vice-President of Research at the University of New Brunswick (UNB), and Dr. Yves Gagnon, Visiting Executive in charge of NSERC's Atlantic Regional Office, participated in the launch of National Science and Technology Week 2004 on Friday, Oct. 15 at UNB. The welcoming speeches were followed by five public lectures. On Saturday morning, there were a variety of hands-on activities for kids, prepared by Science East, and in the afternoon visitors could view displays set up outside the science library and take lab tours offered by several faculties at UNB.

Yves Gagnon, Greg Kealey and Andy Scott (from left to right) at UNB.

Winners of NSERC's 2004 Awards Honoured

Over the past three months, NSERC has been celebrating outstanding successes. The achievements honoured ranged from excellence in research, to excellence in university-industry synergy, to excellence in the promotion of science. The following three pages are dedicated to our 2004 award winners.

Research Excellence

The outstanding achievements of some of Canada's top scientists and engineers were celebrated in Ottawa on Dec. 6th.

The highlight of the day for three of the award winners no doubt took place that afternoon in the House of Commons following Question Period, when the Honourable Peter Milliken, Speaker of the House, publicly acknowledged them. Dr. John Smol, winner of the **Gerhard Herzberg Canada Gold Medal for Science and Engineering**, and Drs. Sajeev John and Geoffrey Ozin, co-winners of the **Brockhouse Canada Prize for Interdisciplinary Research in Science and Engineering**, were then applauded and given a standing ovation by parliamentarians in recognition of the importance of their contributions to Canada.

Denis Drever Photography, Ottawa, Ont.

NSERC President Tom Brzustowski (left) with John P. Smol, Herzberg Gold Medallist.

Those awards, and the others mentioned immediately below, were presented that evening during a ceremony at the National Gallery of Canada. In his address to the winners, keynote speaker Marc Garneau, President of the Canadian Space Agency, said, "....Tonight, you have won the Stanley Cup of Science (and it may be the only Stanley Cup we see this year!). But with this honour comes great responsibility, for the onus is now on you to share your passion for science with the generations that follow."

Denis Drever Photography, Ottawa, Ont.

NSERC President Tom Brzustowski (left), with Sajeev John and Geoffrey Ozin, co-winners of the Brockhouse Canada Prize.

Dr. John Smol, the winner of the 5th Herzberg Gold Medal, was recognized for his outstanding efforts in bringing paleolimnology to world attention, as well as for his influence on public policy on issues related to climate change, water pollution and the protection of the Arctic environment. The prize guarantees that Dr. Smol, a Canada Research Chair at Queen's University, will receive $1 million over the next five years from NSERC.

Drs. Sajeev John and Geoffrey Ozin of the University of Toronto were presented with the Brockhouse Canada Prize, awarded for the first time, for their breakthrough research in the synthesis of light-trapping crystals that could be key to the future development of optical computers. The prize, which honours the late Canadian Nobel laureate and physicist Bertram Brockhouse, recognizes outstanding achievement by a team of researchers from different disciplines. The team shares the $250,000 research prize.

The two other finalists for the Herzberg Gold Medal were Dr. David Dolphin of the University of British Columbia and Dr. C. André T. Salama of the University of Toronto. Each received an **NSERC Award of Excellence**, as well as an additional $50,000 in research support.

Denis Drever Photography, Ottawa, Ont.

David Dolphin, Award of Excellence winner

Dr. Dolphin was recognized for his groundbreaking research on porphyrins, the so-called "coloured pigments of life," which include heme and chlorophyll. His research has resulted among other things in the creation of the drug *Visudyne*™, the world's first treatment for age-related macular degeneration, the most common cause of blindness.

Denis Drever Photography, Ottawa, Ont.

Andre Salama, Award of Excellence winner

Dr. Salama was recognized for contributions to microchip design that helped fuel the global information technology revolution and for his pioneering role and leadership in promoting university-industry interaction within the Canadian microelectronics sector.

The winners of NSERC's **E.W.R. Steacie Memorial Fellowships** (announced in the spring and featured in the March 2004 issue of *Contact*) were presented with certificates

(continued on page 5)

Continued from page 4

Denis Drever Photography Ottawa, Ont.

NSERC President Tom Brzustowski (left) with Steacie Fellows Patrick Keeling, Mosto Bousmina, Lisa Jeffrey, Eric Hessels, and George Eleftheriades. Thomas Brabec was unable to attend the ceremony.

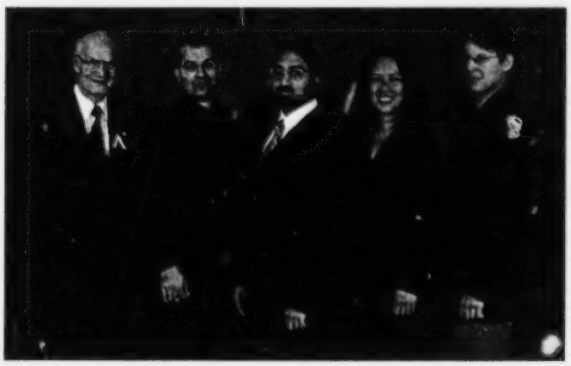
for their outstanding achievements in the 12 years since they have earned their doctorate. The 2004 Steacie Fellows are: Dr. Mosto Bousmina (Université Laval), Dr. Thomas Brabec (University of Ottawa), Dr. George Eleftheriades (University of Toronto), Dr. Lisa Jeffrey (University of Toronto), Dr. Eric Hessels (York University), and Dr. Patrick Keeling (University of British Columbia).

Dr. Aneil Agrawal received the **NSERC Howard Alper Postdoctoral Prize**, created by the first winner of the Herzberg Gold Medal, Dr. Howard Alper, to be awarded to an outstanding individual in NSERC's science and engineering postdoctoral fellowship competition.

The winners of NSERC's **Doctoral Prizes** were also presented with their awards for the best doctoral work completed in science and engineering at a Canadian university in 2003.

Denis Drever Photography Ottawa, Ont.

Howard Alper (left) with Aneil Agrawal, winner of the NSERC Howard Alper Postdoctoral Prize.



Denis Drever Photography Ottawa, Ont.

NSERC President Tom Brzustowski (left) with the NSERC Doctoral Prize winners: Karim S. Karim, Arindom Sen, Marie Evangelista, and Alexandre Blais.

The winners were: Dr. Alexandre Blais (Université de Sherbrooke), Dr. Marie Evangelista (Queen's University), Dr. Karim S. Karim (University of Waterloo), and Dr. Arindom Sen (University of Calgary).

The first **NSERC André Hamer Postgraduate Prizes** were presented to Ms. Sharonna Greenberg, a master's student at the University of Windsor, and Ms. Selena Smith, a doctoral candidate at the University of Alberta. The new awards were created by Dr. Arthur McDonald, winner of the Herzberg Gold Medal in 2003, to honour a former colleague (see article about the award on page 9).

Denis Drever Photography Ottawa, Ont.

Arthur McDonald, 2003 Herzberg Gold Medallist, with Sharonna Greenberg and Selena Smith, winners of the inaugural NSERC André Hamer Postgraduate Prizes.

University - Industry Synergy

Seven successful university-industry partnerships from across Canada, winners of the 2004 Synergy Awards for Innovation, were recognized at a gala dinner Oct. 28 at the Waterloo Inn, in Waterloo, Ontario. The awards include a $25,000 research grant for the university partner and an original sculpture for their industrial collaborator.

The winning partnerships for 2004 were:

Small and Medium-Sized Enterprises Category

- The University of Waterloo (Symbolic Computation Group) and Maplesoft
- The University of Saskatchewan and Western Ag Innovations Inc.

Large Companies Category

- The University of Manitoba and Cangene Corporation
- The University of British Columbia (TRIUMF) and MDS Nordion

(continued on page 6)

Continued from page 5

Two or More Companies Category

- Université Laval and the Canadian Peat Moss Industry
- Lakehead University, the University of Alberta, and the University of Saskatchewan and Millar Western Forest Products, Alberta Plywood, Blue Ridge Lumber Inc., Louisiana-Pacific Canada Ltd., Vanderwell Contractors (1971) Ltd., and the Alexis Nakota Sioux Nation

Leo Derikx Award

- The University of British Columbia, McGill University, École Polytechnique de Montréal, and the Pulp and Paper Research Institute of Canada (Paprican), and the Canadian Pulp and Paper Network for Innovation in Education and Research (PAPIER)

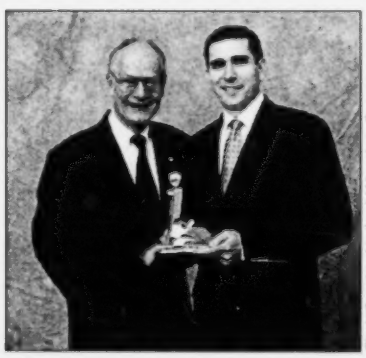
Pink Studios Limited, Waterloo, Ont.

NSERC President Tom Brzustowski (top left) with Leo Derikx Award winners David McDonald (Paprican), Jean Paris (École Polytechnique de Montréal), and Theodorus van de Ven (McGill University) and (bottom row, left to right) Richard Kerekes (University of British Columbia) and Joseph Wright (Paprican).

Also presented were the first-ever **NSERC Innovation Challenge Awards for Science and Engineering**. NSERC President Dr. Tom Brzustowski and Dr. Peter Morand, President and CEO of the Canadian Science and Technology Growth Fund, presented the awards, sponsored jointly by the two organizations, to graduate students whose write-ups of the business potential of their research gave the best demonstration of both innovation and entrepreneurial spirit.

The winners were:

- Dr. Matthew Heuft ($10,000), University of Ottawa;
- Mr. Jérôme Mulhbacher and Ms. Carmen Calinescu ($5,000, shared), Université du Québec à Montréal; and
- Dr. John Tze-Wei Yeow ($5,000), University of Toronto.



Pink Studios Limited, Waterloo, Ont.

NSERC President Tom Brzustowski (left) and Matthew Heuft, winner of the first ($10,000) NSERC Innovation Challenge Award for Science and Engineering.

Michael Smith Awards

The winners of the 2004 Michael Smith Awards were presented with their awards November 22 at a ceremony celebrating the 10th anniversary of the creation of the awards. The event took place at Science World British Columbia, in Vancouver. Named after the late Canadian Nobel laureate Michael Smith, a British Columbian, the award honours individuals and groups who make an outstanding contribution to the promotion of science in Canada.

The individual winners ($5,000 each) were:

- Philip J. Currie (Drumheller, Alberta);
- Sid Katz (Vancouver, British Columbia); and
- Mark Winston (Burnaby, British Columbia).

Mike Waterfield Photography, North Vancouver, B.C.

Winners of the Michael Smith Awards for Science Promotion: (front row, left to right) Larissa Vingilis-Jaremko (representing CAGIS) and Karen Chu (representing DRSA); (back row, left to right) Bryan Tisdall, President and CEO of Science World BC, host of the 2004 ceremony, Sid Katz, Philip J. Currie, Nigel Lloyd, Executive Vice-President of NSERC, Dale Torgerson (representing DRSA), and Mark Winston.

The organizational winners ($10,000 each) were:

- The Canadian Association for Girls in Science (CAGIS) (Mississauga, Ontario); and
- The Deep River Science Academy (DRSA) (Deep River, Ontario, and Pinawa, Manitoba).

For more information on all the prizes and prizewinners, visit www.nserc.gc.ca/about/award_e.htm and www.nserc.gc.ca/news/news_rel_e.htm.

NSERC's Northern Research Chairs' Yukon Lecture Tour

In mid-November, NSERC's Northern Research Chairs travelled to Whitehorse and communities throughout the Yukon to raise awareness of the research that they are conducting in Canada's North. Northern Research Week was organized in conjunction with the Royal Canadian Geographical Society's (RCGS) annual Fraser Lectures, with support from Yukon College, the Yukon Science Institute and NSERC.

Shown during their tour are (left to right) Brent Wolfe (University of Waterloo/Wilfrid Laurier University), Yves Begin (representing Northern Chair Serge Payette, Universite Laval), Laurie Chan (McGill University), Christopher Burn (Carleton University), John England (University of Alberta), and Terry Dick (University of Manitoba).

The six Chairs presented lectures and led discussions with students at Yukon College, and as part of the College's NSERC-supported "Innovators in the Schools" program, they also made presentations to students at grade schools throughout the Territory. In addition to four public RCGS lectures, meetings were held with local government and First Nations groups in Whitehorse, Mayo, Dawson, Haines Junction and Burwash Landing. These allowed open exchange between the Chairs and many Yukon residents who are interested in collaborating with, and learning from, their research programs.

For more information about the Northern Chairs and a description of their research programs, visit www.nserc.gc.ca/news/2002/p020403b.htm.

Exciting Opportunity for Graduates and Postdocs

Are you interested in working in the Canadian North? Our Northern Research Internship program can help make it happen. The NSERC award, which is valued at up to $10,000 for a 16-week internship, includes a logistics and travel allowance of $4,000. Your university will supplement the award by at least $2,000 (for a 16-week internship), and your Northern partner by at least another $2,000 (cash or in-kind support such as room and board).

Although there are no fixed deadlines for the program, you must apply at least eight weeks before your planned start date.

For details, visit the For Students and Fellows part of our Web site (www.nserc.gc.ca) under Postdoctoral.

Chairs for Women in Science and Engineering – Update

New Chair Announced

Anne Condon, a professor of computer science at the University of British Columbia (UBC), has been awarded the NSERC/General Motors Chair for Women in Science and Engineering for the BC and Yukon Region. An exceptionally talented teacher as well as a world-renowned leader in complexity theory and biological computing, Professor Condon is a visible and inspiring role model for women striving to excel in science and engineering. She created UBC's Focus on Women in Computer Science committee, which organizes activities to support female students and attract more female students and faculty members to the department. Her Chair activities include creating and disseminating educational materials at the high school level, and teaching a course to introduce computer science principles through applications in art, music, psychology and biology.

Call for Proposals from the Prairie and Quebec Regions

A competition is underway to fill two **Chairs for Women in Science and Engineering**, one in the Prairie provinces (Alberta, Manitoba, and Saskatchewan) and one in Quebec. The former is vacant now; the Quebec chair will be vacant Sept. 30. Proposals are welcome from any Canadian university in those regions or jointly by two or more universities located within the same region. The deadline for proposals is March 31.

NSERC will match private-sector cash contributions of up to $70,000 per year to support the chair.

For program details, visit www.nserc.gc.ca/programs/wise_e.htm, or contact Anne Alper at (613) 996-6521 or anne.alper@nserc.ca to discuss submitting a proposal.

Competition News

Strategic Project Grants Program

2004 Competition

NSERC's Strategic Project Grants program aims to interest Canadian-based organizations in early-stage academic research collaborations that have potential for impact on Canada's economy, society or environment within 10 years. The 2004 competition attracted almost 400 proposals in a wide range of target areas of national importance. Because of budget limitations, grants could only be awarded to half the proposals recommended for funding. The results of the competition are summarized in the table below.

Tips for Success in the 2005 Competition

When only the best of the best can be successful, how can you ensure that you are among that group? The first step is to read the program description thoroughly to understand the goals of the program. Since only those applications that are strong in *all* evaluation criteria will be funded, make sure your application addresses each criterion in a focused and complete way. Follow the instructions on what information to provide and how to format your application. Here are some further tips:

- Select a research topic that is clearly identified as being of strategic importance to Canada.
- Collaborate with a supporting organization to develop a proposal that is in line with their priorities.
- Make sure the objectives are focused and clearly presented.
- Clearly demonstrate what the current state of knowledge is in this area, where the research will lead, and how you intend to get there.
- Include original concepts with potential for a significant advance in the field.
- Detail a sensible and reasonable work plan to achieve the objectives.
- Assemble a research team that has all the required expertise and is recognized for quality research or has shown strong potential to do so.
- Ensure the training provides skills that are relevant to the needs of Canadian organizations.
- Demonstrate continued participation of the supporting organizations during the course of the project.
- Present evidence of the potential benefits to Canada and to the supporting organization.

Strategic Project Grants 2004-05 Competition Summary

Area	Number of Appl.	Awards	Success Ratio (%)	Total (Millions of $) Requested	Awarded
Biosciences	84	24	28.6	12.59	3.41
Environment and Sustainable Development	94	25	26.6	12.66	3.06
Information and Communications Technologies	68	16	23.5	10.24	2.46
Value-Added Products and Processes	92	26	28.3	12.00	3.18
Climate Change Technologies (incl. GHGM)*	36	13	36.1	3.81	1.54
New Media	9	2	22.2	1.15	.22
TOTAL	**383**	**106**	**27.7**	**52.43**	**13.88**

* The results include applications to the Strategic Program, the NSERC/NRCan initiative in Greenhouse Gas Mitigation and incremental funds earmarked for climate change technology.

One New NCE and Six Existing NCEs Receive Funding

AllerGen, the Allergy, Genes and Environment Network of Centres of Excellence (NCE), was launched Nov. 5 as part of a $90.5 million, four-year investment in seven NCEs.

Through research on the genetic, psychosocial, environmental and economic aspects of allergic disease, AllerGen aims to improve the health, well-being and productivity of the more than one-third of Canadians who suffer from allergies. The new NCE brings together more than 120 researchers and collaborators located at 14 Canadian universities and more than 50 Canadian and international partners.

The NCE Selection Committee also awarded funding for another seven years to four established Networks of Centres of Excellence. Funds for the five NCEs for the next four years are as follows:

- **AllerGen** (hosted by McMaster University) – $20,865,000
- **Canadian Arthritis Network** (hosted by Mt. Sinai Hospital, Toronto, Ont.) – $16,292,000
- **MITACS** (Mathematics of Information Technology and Complex Systems) (hosted by Simon Fraser University) – $21,603,000
- **Canadian Institute for Photonic Innovations** (hosted by Université Laval) – $16,972,000
- **GEOIDE** (Geomatics for Informed Decisions) (hosted by Université Laval) – $14,018,000

Funding for the remaining three years will be decided after mid-term reviews of the networks' progress in the fourth year of their NCE grant.

The **Canadian Genetic Diseases Network**, based at the University of British Columbia and the **Institute for Robotics and Intelligent Systems** managed by Precarn in Ottawa, established since 1990, will receive $500,000 and $250,000 respectively to complete their commercialization projects.

International News

Projects Launched Under EU FP6's New Initiatives

The **Sixth Framework Program (FP6)**, the European Union's main vehicle for funding research, has reached the midpoint of its four-year cycle. The program will channel about 19 billion euros into transnational R&D projects between now and 2006. A number of Networks of Excellence and Integrated Projects (new initiatives under FP6) have been launched, and opportunities exist for Canadian researchers to collaborate in the projects on a self-funded basis. Listings of current projects can be found at http://europa.eu.int/comm/research/fp6/projects.cfm. The regular FP6 Calls for Research Proposals (CFPs) are published on-line at http://europa.eu.int/comm/research/fp6/calls_en.cfm.

The only FP6 program that offers funding to Canadians is the Marie Curie Incoming International Fellowships. With total funding of 20 million euros, these fellowships are intended to attract top researchers from non-EU countries to work and train in Europe, fostering mutually beneficial research cooperation between Europe and other countries. Early-stage and experienced researchers are both eligible for the fellowships. Evaluation criteria include the scientific quality of the project (30 per cent) and the quality of the researcher (70 per cent). For more information, visit http://fp6.cordis.lu/fp6/call_details.cfm?CALL_ID=160.

Funding Guide for International Science and Technology Cooperation

A new international funding guide is available at http://fgic-gfci.scitech.gc.ca/. It outlines various sources of funding that could potentially support Canadian professors and postdoctoral fellows in their international collaborations.

Record Response to Inter-American Collaboration in Materials Research

The second call for proposals for the Inter-American Collaboration in Materials Research (CIAM – Colaboración Interamericana en Materiales) closed in mid-October with a record 49 proposals received by NSERC. Of those, 25 had more than one foreign partner. Canadian researchers partnered with their colleagues in Brazil (22), Mexico (20), Argentina (9), Chile (4), Colombia (2) and Trinidad & Tobago/Jamaica (1).

CIAM is a multi-agency initiative through which research funding agencies of participating countries in the Americas support opportunities for new interactions among materials researchers that leverage the strengths of each country's scientific community. Awards will be announced by late spring 2005.

For more information on NSERC's international programs, contact Jean-Pierre Rodrigue, International Relations Analyst, at jean-pierre.rodrigue@nserc.ca or (613) 996-9260.

Inventory Helps Companies Find Recent Doctoral Graduates

Is your company looking for a recent doctoral graduate? If so, you should consider nominating for an NSERC Industrial Research Fellowship (IRF) one of the highly qualified candidates listed in our inventory.

Your company will be expected to provide the Fellow with research and development activities and/or research project management in a work environment that will provide him or her with an opportunity to grow as a researcher. The federal government has made it a priority to support the commercialization of the results of university research so that our economy and Canadians derive the benefits, and the IRF program is one of several NSERC runs to support this goal.

While you may nominate any recent doctoral graduate who meets the IRF eligibility conditions, if you nominate one of the candidates listed in the inventory, that individual is considered by NSERC to be qualified for the award. This means that the proposed project is all that remains to be approved by the selection committee. (Candidates were "pre-approved" as a result of their high standing in NSERC's most recent postdoctoral fellowships competition.)

IRF competitions are held several times a year. You can find the inventory at www.nserc.gc.ca/programs/IRF_inventory_e.htm. To receive the contact information for any of the candidates listed, please e-mail NSERC at schol@nserc.ca or call (613) 996-1900.

For information on the IRF program, visit the For Students and Fellows part of our Web site (www.nserc.gc.ca) under Postdoctoral.

Inaugural NSERC André Hamer Postgraduate Prizes Awarded

On winning the 2003 Gerhard Herzberg Canada Gold Medal for Science and Engineering, Dr. Arthur McDonald decided to contribute part of his prize to establish two $10,000 prizes for students. The NSERC André Hamer Postgraduate Prizes are named in memory of a promising young colleague who passed away from cancer in 2003 at the age of 35.

"André Hamer worked to the highest standards as a student and it is very appropriate for this award to represent excellence among all the science and engineering research students at Canadian universities," said Dr. McDonald.

The annual André Hamer Prizes are awarded to NSERC's most outstanding candidates in the master's and doctoral scholarship competitions. The prizes, tenable only in Canada, reward extremely strong academic achievement, research ability and potential, communication skills, and interpersonal and leadership abilities.

The first of the new awards were presented on Dec. 6 at a ceremony at the National Gallery of Canada in Ottawa. Sharonna Greenberg, a graduate student in chemistry at the University of Windsor, was the recipient of the André Hamer Prize at the master's level, and Selena Smith, a graduate student in biology at the University of Alberta, received the André Hamer Prize at the doctoral level (see article on page 5).

Research Collaboration Could Lead to Benefits for Both Humans and Animals

Dr. Jake Sivak is working hard to find new ways of testing eye products – ways that don't use live rabbits.

Jake Sivak

The Draize eye irritancy test is one of the most controversial toxicological animal tests. It involves the use of large numbers of rabbits – hundreds of thousands each year in Canada alone – that are often subjected to extreme discomfort during the test.

Although the Draize test has been in use since 1944, another major problem is that it is highly subjective, leading to results that vary from laboratory to laboratory. So there is an international effort under way to find an animal-friendly alternative, and Dr. Sivak is at the forefront of this effort.

Since summer 2002, Dr. Sivak has held the NSERC-Bausch & Lomb Industrial Research Chair in *in vitro* toxicology at the University of Waterloo. A professor and researcher in the University's School of Optometry, he has developed an assay that uses lenses from cattle abattoirs as a substitute model for the human eye. The ScanTox ™ assay uses a special machine that measures changes in laser refraction in bovine lenses that are challenged with a chemical substance. Early evidence shows that the ScanTox ™ results are more consistent than with the Draize test, and the response more closely resembles the response of a human eye.

The collaboration between Dr. Sivak's lab and Bausch & Lomb is validating whether or not the test is reliable for a wide range of challenges and laboratory settings. "The new methodologies being developed for testing ophthalmic products will ultimately improve the lives of many by helping them see and feel better. It is also a comfort to know that we are developing new innovative products without causing unnecessary pain and anguish to animals," says David McCanna, Manager, Toxicology, at Bausch & Lomb.

At the same time as he is helping Bausch & Lomb develop better ways of testing eye products, Dr. Sivak is also conducting basic research, discovering why the lenses undergo these changes when exposed to certain chemicals. If we can understand the basic mechanisms that can lead to eye damage, perhaps it can be avoided altogether. "Very little is known about how eyes react to toxic chemicals," says Dr. Sivak. "Our research can help change that."

Busy Fall at NSERC Newsbureau

There was a lot packed into five and a half short weeks from October 28 to December 7. For most of the awards announced during that period there was a news release and one or more backgrounders on the winners. We also followed up with selected media to build interest and provided additional information and support, such as arranging interviews with the winners.

As well, the Newsbureau continued to track down interesting science and engineering stories and share them with the media. A Newsbureau Bulletin on the physics of curling garnered copious coverage in the Canadian media – the *Times Colonist* (Victoria), *The Vancouver Sun*, the *Edmonton Journal*, the *Calgary Herald*, *The StarPhoenix* (Saskatoon), the *Winnipeg Free Press*, the *Sault Star*, *The Toronto Star*, *The Kingston Whig-Standard*, the *Ottawa Citizen*, *The Gazette* (Montreal), and the *National Post* – as well as overseas (curling, naturally, caught the Scottish eye, with *The Sunday Times – Scotland* throwing a rock in).

Another story on a group of scientists who subjected themselves to an experiment on how the body absorbs mercury from fish during a conference in an out-of-the-way Manitoba town was picked up by *The Vancouver Sun* and the *Edmonton Journal*, the *Winnipeg Free Press* and the *Ottawa Citizen*.

A third story, on tinnitus, which is a constant buzzing or ringing in the ears, was picked up by the *Times Colonist* (Victoria), *The Vancouver Sun*, the *Edmonton Journal* and the *Calgary Herald*.

Finally, there were two Bacon and Eggheads breakfasts on Parliament Hill last fall. These showcase prominent scientists who speak to parliamentarians on their research and its broader implications. One featured Dr. Tito Scaiano, a Herzberg Gold Medal-winning chemist from the University of Ottawa, while the other headlined Dr. Vincent Tao, a geomatics professor from York University. The Bacon and Eggheads breakfasts are held monthly while Parliament is in session. The next one will be on February 10, and will feature Dr. Marc Bustin of the University of British Columbia, who will speak on coal bed methane extraction.